DOCUMENT RESUME

ED 129 838 TM 005 452

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TITLE The Sliding Person Test--A Non-Verbal Measure of Self-Esteem.
PUB DATE [Apr 76]
NOTE 39p.; Paper presented at the Annual Meeting of the American Educational Research Association (60th, San Francisco, California, April 19-23, 1976)

EDRS PRICE MF-$0.83 HC-$2.06 Plus Postage.
DESCRIPTORS Counseling; Elementary Secondary Education; Emotional Adjustment; Higher Education; *Nonverbal Tests; Personality Assessment; *Personality Tests; Predictive Ability (Testing); Q Sort; Self Actualization; *Self Esteem; Self Evaluation; Statistical Analysis; *Test Validity
IDENTIFIERS *Sliding Person Test; SPERT

ABSTRACT

The Sliding Person Test (SPERT) is a nonverbal measure of self-ideal discrepancy. The original test was a wooden manipulative which Joseph S. Karmos designed in order to pursue the 1962 conclusions of John Shlien, that even at a high level of abstraction, self-esteem is not without and it is more related to the unique and personal items which an individual consciously uses to describe himself than to the conventional concrete items which are usually intended for groups of people. Informal use in classrooms from kindergarten to high school levels indicated its potential value as a counseling tool. Evidence of convergent and discriminant validity of a pencil and paper version of SPERT was found in a study of 200 college students. Contrary to expectations, a U-shaped relationship was found between SPERT discrepancy and emotional adjustment. Highly self-accepting individuals with large self-ideal self discrepancies scored higher on measures of adjustment and social desirability, lower on a measure of anxiety than did less highly self-accepting individuals with large discrepancies. (Author/BW)

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ED129838

THE SLIDING PERSON TEST--A NON-VERBAL MEASURE OF SELF-ESTEEM

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Paper presented at 1976 Annual Meeting
of the American Educational Research Association
San Francisco, California

TM005 452

THE SLIDING PERSON TEST--A NON-VERBAL MEASURE OF SELF-ESTEEM

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In 1962, John Shlien investigated the existence of a global or general self-ideal self relationship. He concluded that even at a high level of abstraction self-esteem is not without content and it is more related to the unique and personal items which an individual consciously uses to describe himself than to the conventional concrete items which are usually intended for groups of people.

Joseph S. Karmos pursued Shlien's idea by building a wooden manipulative, the Sliding Person Test (SPERT), which consisted of a fixed profile of a person, representing the "ideal self," and a sliding profile of a person, representing the "real self." An individual slides his "real self" toward his "ideal self" and stops at a point which indicates how far he perceives himself to presently be from himself "as he would like to be" (see Figure 1).

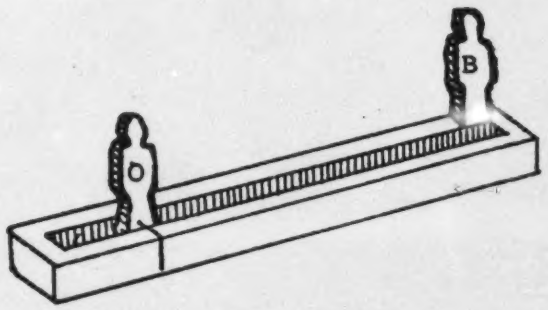

Figure 1. The SPERT Manipulative.

From the initial use in kindergarten to high school classrooms, it appeared that the instrument had potential as a counseling tool for exploring the problems an individual has in living up to the standards he sets for himself. But the pressing question remained as to whether SPERT was a valid instrument for measuring "self-ideal self discrepancy." A study (Karmos, 1975b) was designed to satisfy Campbell-Fiske minimal requirements for construct validity and to examine certain relationships among personality variables.

A paper-and-pencil version of SPERT was developed in order to feasibly administer it to a sample of 200 college students. The rationale for using older students was to clarify theoretical relationships concerning self-esteem as measured by SPERT in order to establish a stronger foundation for exploring the validity of the original instrument in classrooms at lower age levels.

So the chronology of SPERT prior to the writing of this paper began with John Shlien's study. Then SPERT was tried in an elementary school classroom and, most recently, there was a validation study of SPERT with college students. This paper is a summary of SPERT's chronology.

Shlien's Study With the "Abstract Apparatus"

SPERT was conceived to be analogous to the Abstract Apparatus developed by Shlien in 1962. Initially, Shlien was interested in the following questions with respect to measurement of the self-ideal self discrepancy by using Q-sort instruments.

> Is there an abstract entity, an internal self-ideal relationship (congruence or discrepancy) which exists within each person's consciousness of himself in a general sense, and which will be projected upon or represented through any set of items? To what extent is this measure of self-esteem a core of feelings, independent of the cultural traits usually offered as concrete avenues of its expression? And if there is such a psychological entity, which cuts across a variety of self descriptive items, would there still be a particular set of items which would be most truly representative of the self-ideal relationship within a given individual? (pp. 146-147)

Shlien compiled five Q-sort decks of various size and content to be sorted by a group of subjects, one of which (the idio-Q deck) consisted of 25 statements each subject wrote about himself which he considered to be personally significant, whether positive or negative. Correlations among the five instruments ranged from .50 to .82. Shlien tentatively concluded that "there is some internal sense of self-ideal congruence (or discrepancy) which has a greater influence on the sorting than does the effect of the written statement presented as opportunities for that expression" (p. 148). He wondered if self-ideal discrepancy could be more accurately measured at a higher level of abstraction by completely removing the verbal trait descriptions in the imposed statements. To investigate this question, he constructed his Abstract Apparatus which consisted of two transparent semi-circles which could be rotated so they were opposite each other and not overlapping, representing the greatest possible discrepancy, or completely overlapping, representing the least possible discrepancy. By using a different instrument parallel to the Abstract Apparatus, Shlien found a stability coefficient of .81. This was as high as the average reliability of the Q-sort instruments. The correlation between the two "abstract" instruments

(.81) was also higher than the correlation between either "abstract" instrument and an 80-item self-ideal self Q-sort (.39 and .48). The correlation between the initial Abstract Apparatus and the idio-Q sort was .67. Thus, the predictive power from the Abstract Apparatus to the idio-Q (R^2=.44) was nearly twice as great as the predictive power from the abstract devices to the 80-item Q-sort (R^2=.15, R^2=.23). Shlien interpreted this finding to indicate that even at a high level of abstraction, "self-esteem" is not contentless. In fact, it is more related to the unique and personal items which an individual consciously uses to describe himself than to the conventional concrete items which are more common to a population.

Thompson's Study With the SPERT Manipulative

In 1975, a second-grade teacher, Betty Thompson, used the SPERT manipulative in an eight-week study of a classroom program for enhancing self-esteem. Her design involved three second-grade classes, all of which were pretested and posttested on SPERT, the Piers Harris Children's Self-Concept Scale, Bills' Elementary School Index of Adjustment and Values, the Coopersmith Self-Esteem Inventory, and on the Pictorial Concept Scale. The experimental class (A), involved in the self-concept enhancement program, graphed their own SPERT scores weekly, followed by a conference with the teacher who had full knowledge of all pretest responses. In the two control classes (B and C), no self-concept enhancement program was used and the teachers did not have knowledge of pretest responses. Class B children graphed their SPERT scores weekly with no subsequent teacher conference. Class C children were only pretested and posttested on SPERT.

Ms. Thompson was the teacher for Class A and two other teachers conducted B and C. The activities which Thompson used in her program are described below (Thompson, 1975).

> With teacher knowledge of previous test responses, the teacher structured the program to enhance the self-concepts of the individual children within the group. Each child was instructed in the use of SPERT and was given a folder to record his progress in bar graph form. The teacher scheduled a personal interview with each child after he had recorded his score on the graph. Discussion was centered around the child's marking on the graph and what experiences and feelings the child felt had influenced this position. The child did have the graphing from the previous week before him while he was graphing the present week and during the teacher interview.
>
> Within the classroom environment, several new ideas were implemented into the general schedule of the day. A "Magic Circle" was sometimes called to discuss topics suggested by the children. Rules for this activity were established to make children more free in their responses. All responses were allowed. A child could "pass" if he did not wish to respond. Everyone in the circle was asked to keep eye contact with the person speaking. The children brought their chairs into a circle to establish a feeling of closeness at these times. This activity was used any time during the day when the teacher felt there existed a situation where the children would benefit from gathering together to discuss a problem or topic.
>
> At this time the class began to practice positive criticism statements. This was to be done by first making a positive statement about a person, followed by a negative statement and a suggestion for improvement, and then a positive statement to end your discussion. The teacher began by accepting positive criticism statements about herself from the class. Later, the children were to transfer this model by giving positive criticism statements to their peers. Discussion was held to point out that everyone has some area to improve upon and that one can be helpful in pointing this out in a positive manner.
>
> As a group, the experimental class read and discussed TA for Tots and TA for Kids. Throughout the eight weeks, attention was drawn to situations where children responded in their adult, parent, or child areas. The teacher attempted to provide a model for showing the importance of each of these areas in a person. Situations were given in order for the children to role play different areas of a person's personality.

Peer reinforcement was stressed to aid the teacher in maximizing positive reinforcement within the room. During reading groups of small numbers, the experimental teacher found that children awaited teacher judgement after student responses. When another student was called upon to comment about a child's work, the child's peer looked at the teacher and stated, "She did a good job reading." The teacher structured the children to have eye contact and speak directly to the person who had performed the task. Soon children were requesting permission to reinforce peers. The specific comments became more pointed as children started responding with such statements as "You read that hard page and sounded out some big words. That was good." or "You read loudly and clearly." Another goal was to have the children interact and reply with such statements as "Thank you, Ann." This interaction would, hopefully, point out the importance of responding to someone who does notice your behavior.

The experimental teacher initiated a game called "I'm thinking of a person." During this game three statements were made about a person within the room. The class had to guess who was being described. Children were encouraged to describe their peers. Later in the experimental period, the game was extended to include comments such as "I am thinking about a person who has been working very hard to improve himself in this way." The stress was always toward more interaction between students.

During other activity periods, the children constructed mock family shields on which they drew pictures and described different areas in their personalities. They responded to the following statements: "I am good at this," "I like this part of me," "I don't like this part of me," and "I am proud of this part of me." Parallel questions were posed for how the child thought his parents, teacher, and peers felt about him in these areas. All of these activities were interrelated and structured to extend the effectiveness of the program as a whole (pp. 21-24).

Thompson found that there was a significantly greater increase in self-esteem over eight weeks, as measured by SPERT, for Class A than for Classes B and C. Furthermore, there was <u>not</u> a significantly greater increase in SPERT scores for Class B over Class C. She concluded that SPERT was sensitive to positive changes in self-esteem for a group involved in a self-concept enhancement program and that this result could not be accounted for by the weekly graphing experience as done by Class B.

Perhaps a more important result of the study was revealed in Thompson's personal reactions about student-teacher relationships and in four case studies she did during the eight weeks. The following excerpts illustrate her support of SPERT as a teacher-student counseling tool (Thompson, 1975).

> A child enters school with many factors already at work in his perception of his position in life. Parents, siblings, and other relatives have responded in set patterns which have created the direction of the child's self-awareness. A teacher needs to be aware of these previous influencing components in order to have a stronger basis on which to interact with the child (p. 1).
>
> Being aware of and understanding the important factors which develop or affirm a child's self-concept is a difficult and challenging role for the teacher. Many teachers are sensitive to the behavior of children.... This process of observing and guessing is of a very subjective nature.... Knowing how a child perceives himself will aid a teacher in a more positive interpretation and understanding of the child (p. 3).
>
> Teachers can be more confident and secure in enhancing a child's self-concept when they have a clearer picture of how the child feels about himself in a large number of situations. Utilizing this type of knowledge lessens the subjective interpretation made by the teacher when observing child behavior (p. 3).
>
> The author feels that SPERT was a valuable tool for providing a concrete foundation for allowing verbal communication between teacher and child. There appears to be a greater level of teacher understanding of the child when there has been a definite stance made...concerning his progress.... The teacher is able to discuss...specific actions which the child feels were important to him in attaining his concept of ideal self (p. 3).
>
> ...there does exist a greater understanding of self and ideal self when the teacher has a manipulative to aid in communication with the student and...there is more effective communication when a consistent program of enhancement is utilized with this manipulative (p. 33).

The case studies illustrate the relationshps among (1) Thompson's knowledge of students' responses on the various self-concept instruments, (2) the influence of the activities in her enhancement program,

and (3) her weekly SPERT interview sessions. Two of the studies are particularly interesting with respect to weekly changes in the SPERT graph and their correspondence with observed behavior (Thompson, 1975).

Case Study: Billy, Boy, Grade Two
Pretest Teacher Rating: Low
Posttest Teacher Rating: Medium

Billy was a delightful boy who appeared shy when first encountered but was an obvious leader of his peers. He was interested in physical skills and was well-like by others in the room. He was not extremely verbal within the classroom. He seemed to attract people to him and could redirect the efforts of his peers in the derection of his own goals.

Billy seemed to feel pleased with his accomplishments in school. He was a leader in his reading group, which was performing slightly below grade level. He enjoyed the verbal praise given by peers during these reading sessions. He was quite shy when he praised others. He would volunteer to express his feelings to others, yet his heavy breathing and tilted head were visible signs of an uneasiness. As the weeks passed, he was physically more comfortable when looking directly at a child in his reading group and verbally stating good points directed at the oral reading of his peers. He seemed to maintain his shy, yet pleased manner when someone praised him. He appeared to need more praise from peers than from his teacher.

Billy scored lower at posttest time on Piers-Harris and Coopersmith subscales. On the Bills Index of Adjustment and Values, he scored the same on the self subscale and had a higher score of acceptance, ideal and self-ideal concepts. When graphing SPERT, Billy said he was acting more in his child area than adult or parent. This discussion was influenced by previous group interaction after reading TA for Tots. Billy felt that he should stop getting on detention.* He had been getting into trouble at recess while playing. He expressed points of disturbance at home. Late at night, an older brother enjoyed playing music loudly. Billy shared the same bedroom. He said he felt tired at school because of lack of sleep. He decided that when this situation occurred again he could sleep in his sister's room.

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*Detention was a policy of the school, not of Ms. Thompson. Billy was sent to detention by playground supervisors.

Billy discussed the need to extend his set of friends. He felt others liked him. A few boys would follow Billy's lead on the playground. This preceded his getting on detention. Billy seemed to be challenged to lead activities shich would end in trouble for him and his followers. This seemed to tie the bonds of their friendship. Billy named other children within the room that would make good playmates.

As the first week progressed, Billy seemed to control his behavior more than before. Graphing at Week 2 showed Billy felt that he had improved [see Figure 2] . He verbally stated that he had not been placed on detention and that he was playing with other children.

By Week 3 Billy had placed his graph in a negative direction. He had been picking on another child on the playground. He was also ignoring the teachers. Weeks 4 and 5 were difficult for Billy. He was fighting on the playground and in the cafeteria. He was assigned to detention. During detention he was disrespectful to the principal and continued to distract. He was given a spanking and his mother was called in for a conference. His mother was supportive of the school's position. A discussion was held with Billy present and he was told that everyone present cared for him but did not approve of his behavior.

Weeks 6 and 7 showed progress in his placement on SPERT. Billy settled down with his school work. He was calmer on the playground. He seemed happier during his new calm period.

Looking at Billy's Family Shield exhibited proof that he did not like being on detention [see Figure 3] . This feeling was supported by his parents [see Figure 4] . He also expressed the notion that making designs was an area that he did quite well [see Figure 3] . The teacher had praised Billy on his creative ability in designing patterns and use of color [see Figure 5] . Peers applauded his work in this area.

Reading Billy's responses on group tests pointed out his feeling of lack of communication with his parents. He did not feel that he had much fun with his parents. He felt his parents did not consider his feelings when they made decisions concerning his time. Billy responded that there are many times when he would like to leave home. Knowing these responses aided the teacher in discussions with Billy and his mother (pp. 42-44).

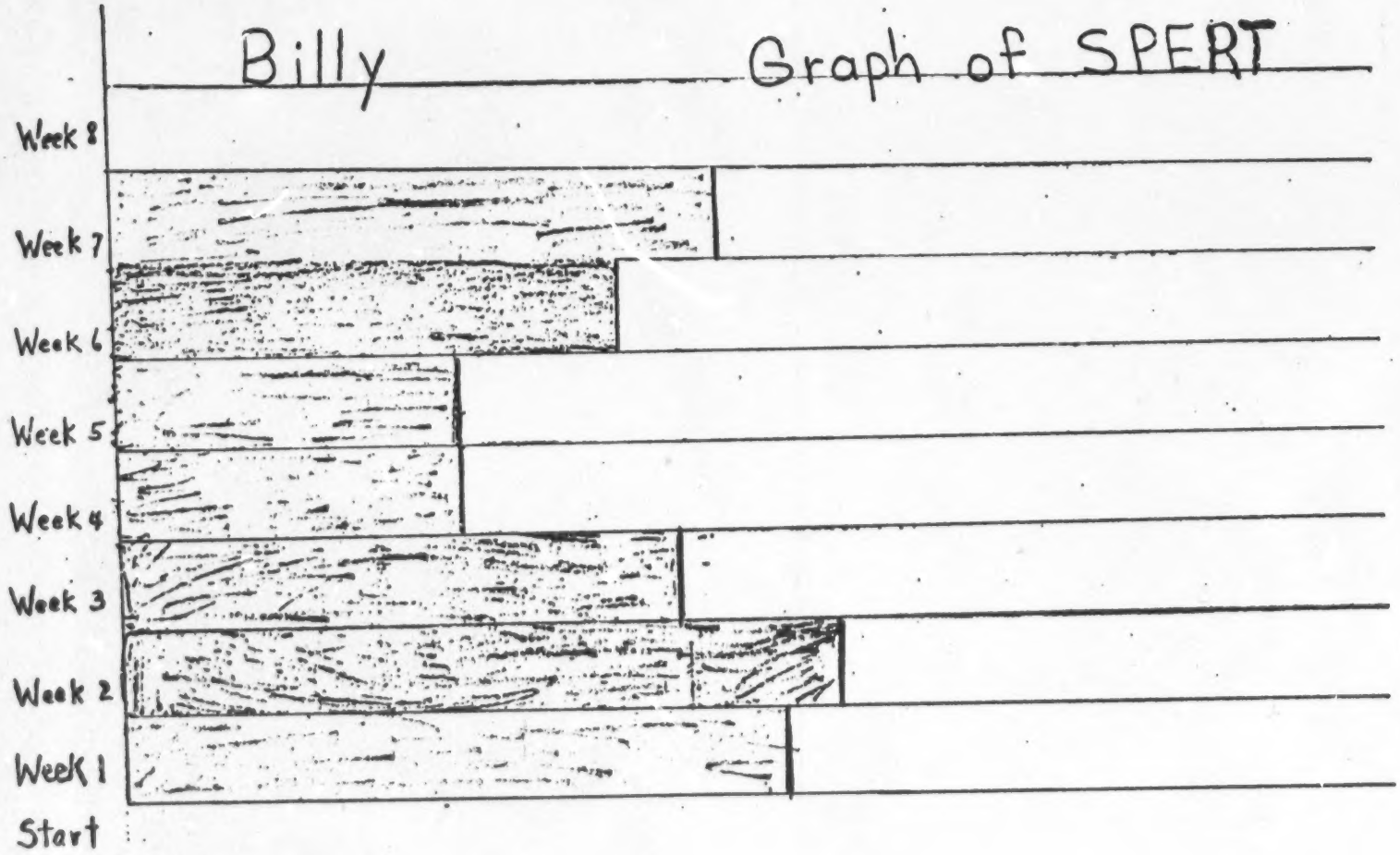

Figure 2. Billy's Graph of SPERT

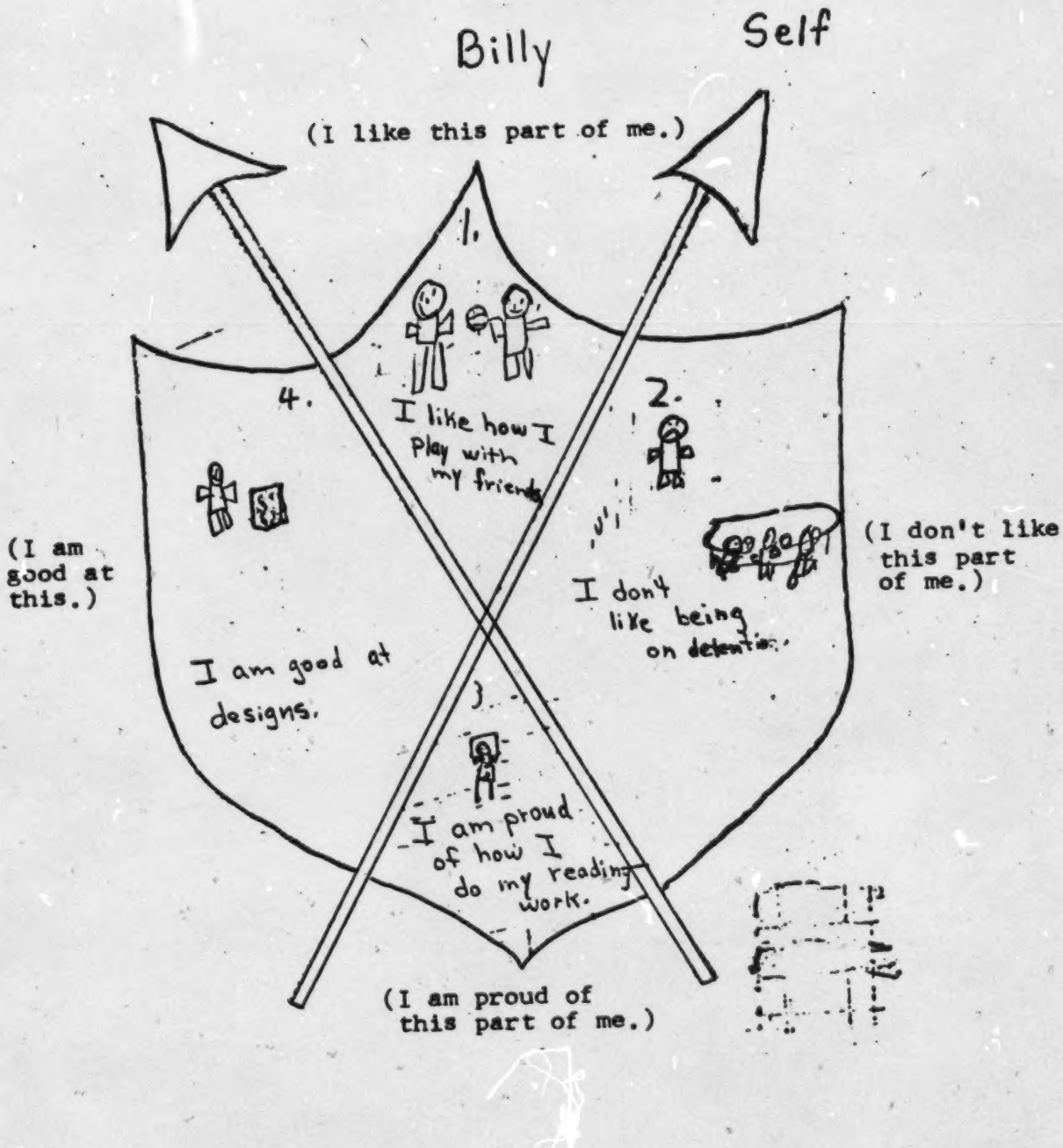
Billy
Self
(I like this part of me.)
1.
I like how I play with my friends.
2.
(I don't like this part of me.)
I don't like being on detention.
4.
(I am good at this.)
I am good at designs.
3.
I am proud of how I do my reading work.
(I am proud of this part of me.)

Figure 3. Billy's Shield, "How I See Myself"

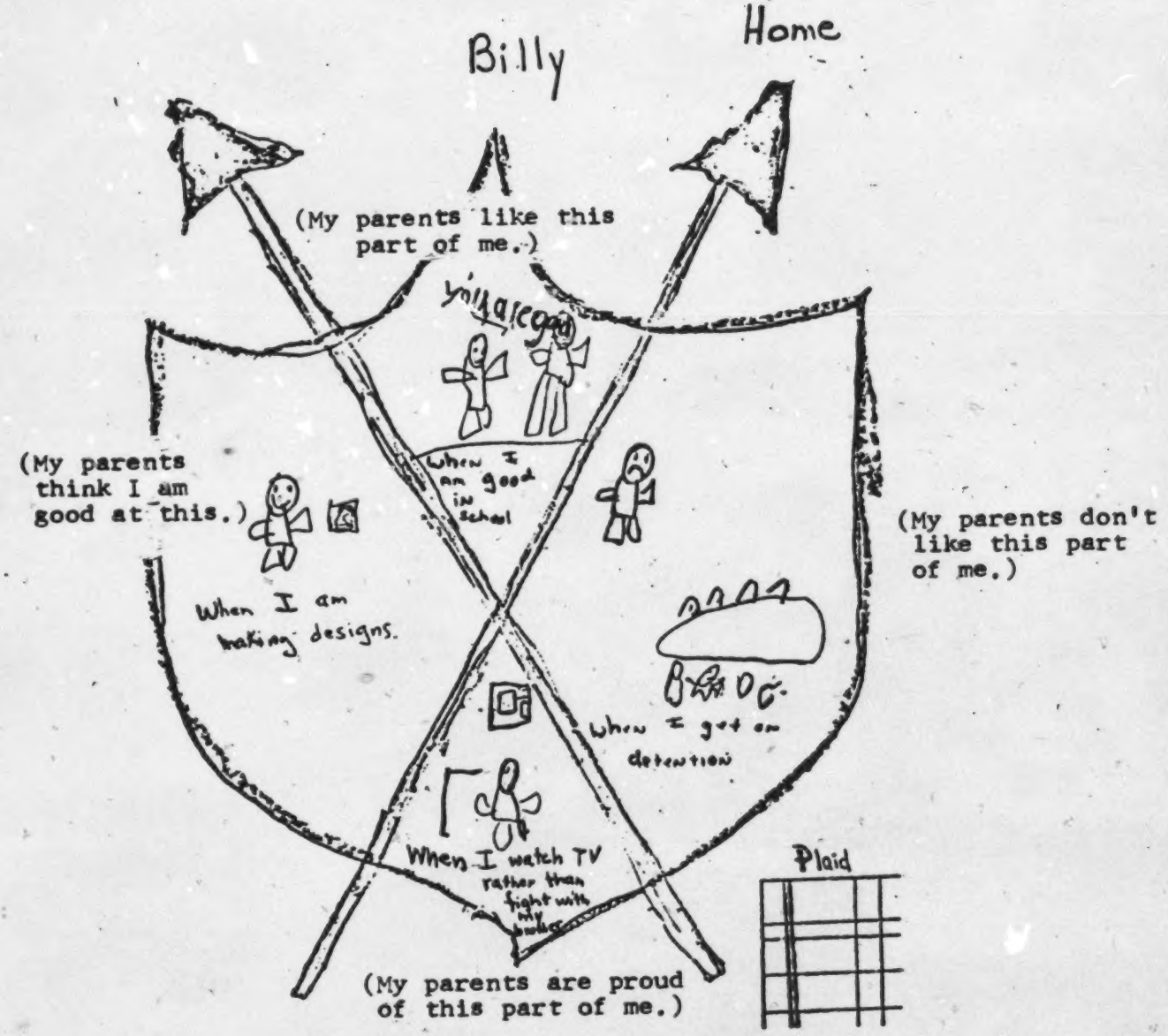
Billy
Home
(My parents like this part of me.)
(My parents think I am good at this.)
When I am good in school
When I am making designs.
(My parents don't like this part of me.)
When I get on detention
When I watch TV rather than fight with my brother
Plaid
(My parents are proud of this part of me.)

Figure 4. Billy's Shield, "How My Parents See Me"

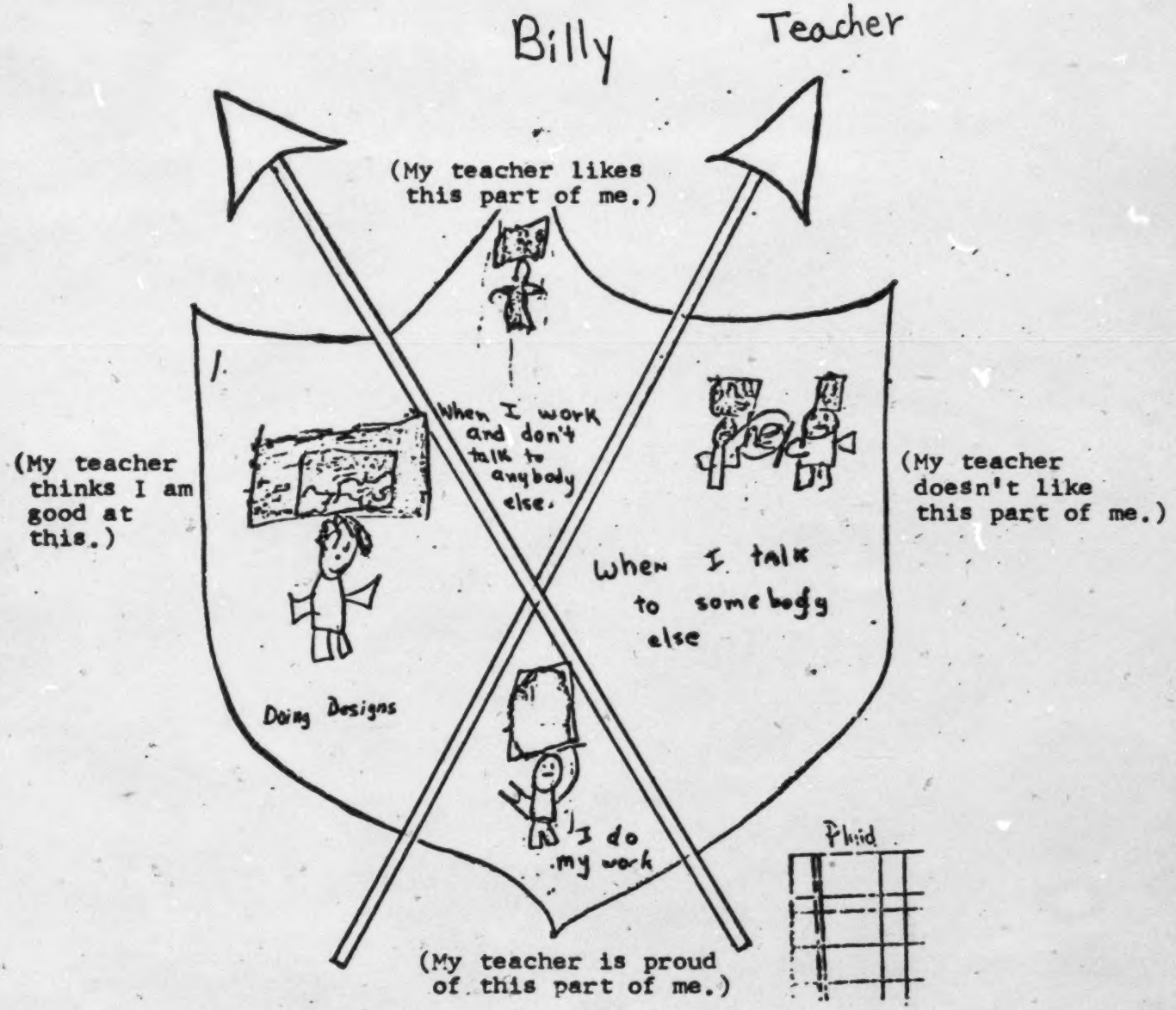
Billy
Teacher
(My teacher likes this part of me.)
When I work and don't talk to anybody else.
(My teacher thinks I am good at this.)
(My teacher doesn't like this part of me.)
When I talk to somebody else
Doing Designs
I do my work
Plaid
(My teacher is proud of this part of me.)

Figure 5. Billy's Shield, "How My Teacher Sees Me"

Case Study: Warren, Boy, Grade Two
Pretest Teacher Rating: Low
Posttest Teacher Rating: Medium

Warren was a person who stood out in a crowd as being a loner. He seemed to desire to participate, but did not know how to initiate the communication. He was not physically as coordinated as most of the children within the room. He seemed to purposely move slowly and accent his gestures. He was a year older than the other children within the room. In first grade he had been retained due to extended absences. His attendance had been greatly improved in second grade.

Warren did not seem comfortable with the children in the room. He was very sensitive to the feelings of others and acutely sensitive to his own. He was often moved to tears. He strived for adult attention and appeared to feel more successful in gaining attention from adults. He was usually chosen last in group activities.

Warren lived at home with both parents. A divorced woman and her son rented from his family. The little boy shared the attention of Warren's mother. While interviewing with the teacher after graphing SPERT on Week 1, Warren reported that the boy disturned him. He preferred to be alone. Warren said that he liked being sick. No one disturbed him at these times. He was allowed to be alone. He said he really did not want others to like him. The teacher interpreted these remarks to indicate a desire to get along with others and a frustration at not being able to accomplish his goal.

Warren graphed his view of self very close to ideal self until Week 4 [see Figure 6]. At this time he stated that there was a conflict at home between the other boy and him. Warren's mother had sent him to his room after the boys had been involved in an argument. He did not like having her attention shared with someone else. During the interview with the teacher, Warren made the statement that he would attempt to understand the other child's feelings. On Week 6 there was a move on his graph in the positive direction. Warren reported that he was getting olong better at home. On Week 7 graphing the positive move was associated with better work habits at school, pride in the teacher assigning him a major part in the Spring Sing Program, and the fact that he was getting along better at home.

In looking at his group scores, Warren answered with a low self-concept in the area of home. He felt that he got upset easily at home and had difficulty getting used to anything new. Warren did not feel that he was popular with the children his own age. He felt children picked on him

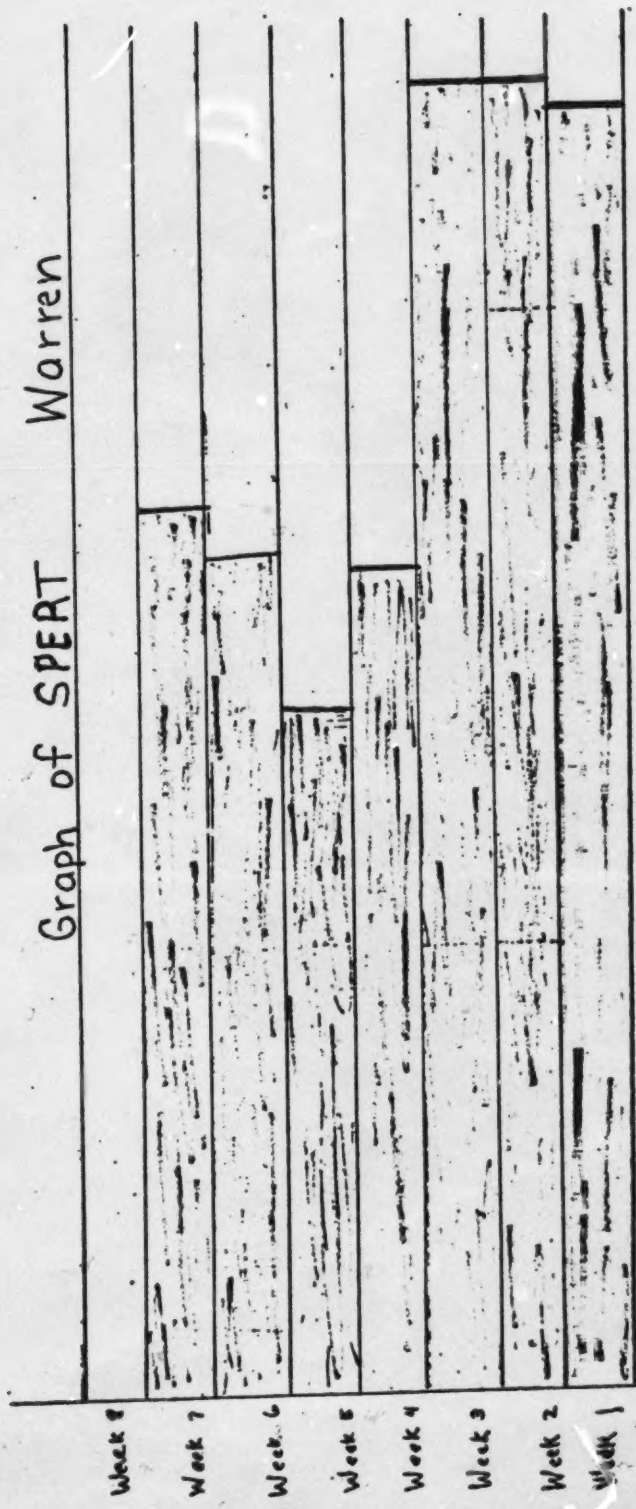

Figure 6. Warren's Graph of SPERT

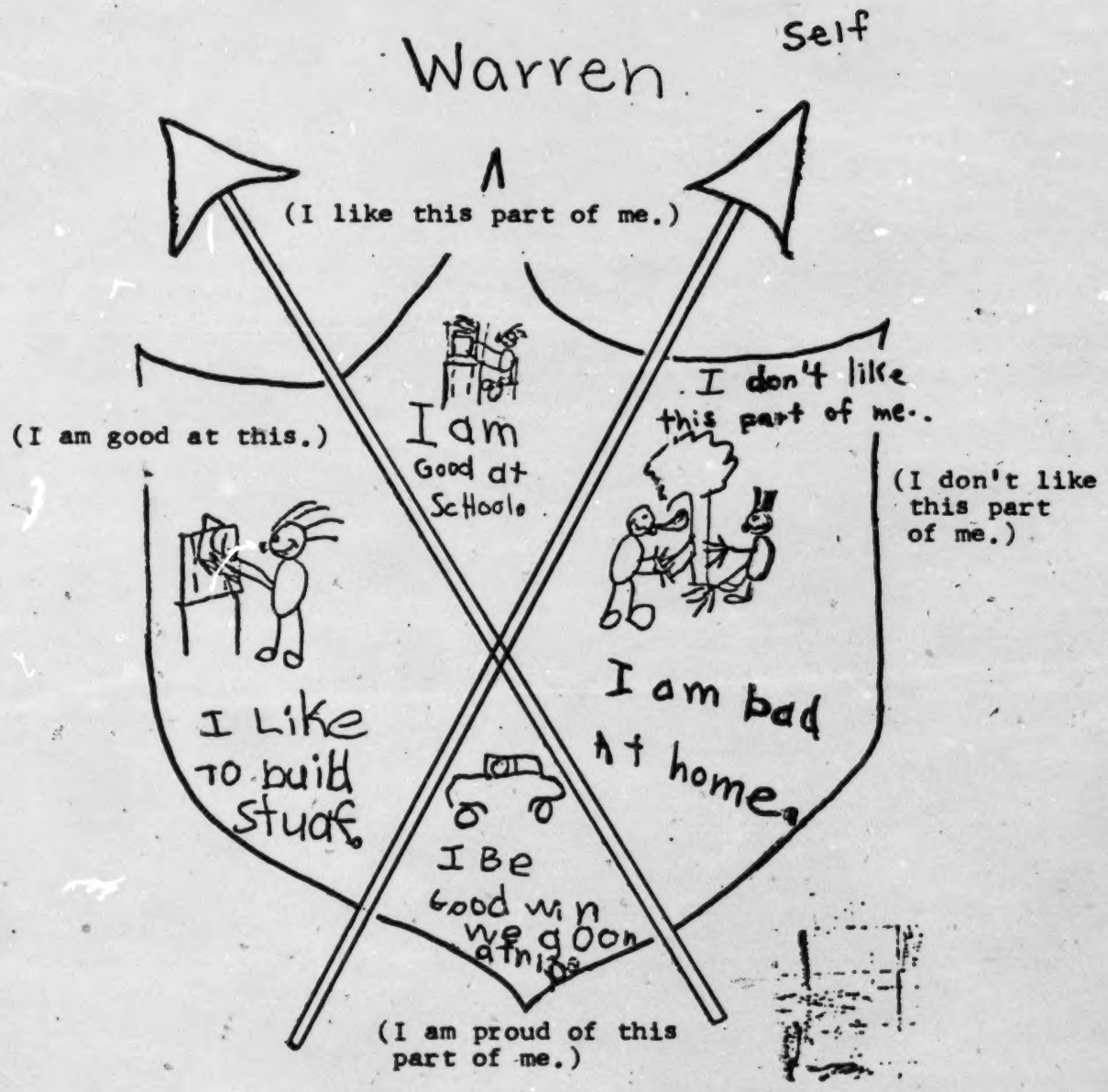

Figure 7. Warren's Shield, "How I See Myself"

and that others were better liked than he. He remarked that there were many times he felt like leaving home [see Figure 7] .

During the posttest week, Warren broke down in tears when the class responded to questions on the Bills Index of Adjustment and Values. He turned in his incomplete paper and in a later discussion with the teacher he stated that he did not want to answer these questions. He had marked the questions that asked how he felt about given situations. He had left blank all questions asking how he felt about the way he was. Warren was very upset over these questions for several days. This uneasiness had not happened during the pretest week. He must have felt that the teacher would react to his responses since that had been the outcome of the pretest statements.

By the end of the experimental period, Warren was making attempts to interact with other children in play situations. He was very proud that he was selected for a major part in the Spring Sing. He did an excellent job when practicing. The teacher rated him as having a medium self-concept due to his growth in communication with others. He had become more open in his talk with the teacher (pp. 49-51).

Karmos Study With Pencil-and-Paper Version of SPERT

Before an instrument is used in studies to predict school-related behaviors, the validity of the instrument should be investigated. Wylie (1974) made a strong statement regarding this: "The time has long passed when substantive studies based on unevaluated instruments should be considered publishable" (p. 124). Besides the necessity to validate SPERT, the authors were also concerned about a lack of information on the theoretical construct "self-ideal self discrepancy" when defined as a <u>global</u> notion of self-esteem. John Shlien's instrument was the only predecessor to SPERT, so construct validity was lacking.

Cronbach and Meehl (1955) stated that in order to validate a claim that a test measures a construct, there must exist a nomological network (or system of laws which constitute a theory) and

that "learning more about" a construct is a matter of elaborating the network in which it occurs. What was needed was an adequate initial investigation into the variables which could be related to a global self-esteem construct.

SPERT Items

A paper-and-pencil version of SPERT was devised so that it would be reasonable to collect data on a large sample. This version of SPERT, which was used in the study, consisted of three items, the first one (SPERT-discrepancy) being a direct parallel of the SPERT manipulative. It was proposed that this item would be a measure of the perceived distance between the individual's present regard of himself and himself as he would like to be.

The second item (SPERT self-acceptance) was to measure the extent to which an individual's perceived discrepancy on the first item was of concern to him. Bruce (1958) suggested that "a discrepancy between self and ideal might well mean different things to different individuals. While to one person a self-ideal discrepancy might be a threat to his self system, to another, such a discrepancy might indicate that his aspirations are high and serve as a challenge to him. What seems to be important is not the discrepancy itself, but the feelings about it [emphasis added] " (p. 236). This second item was to measure a person's acceptance of himself as he is, regardless of how far he sees himself from being the person he is striving to be.

A third SPERT item was to measure the individual's perceived recent progress toward ideal self. The item was included in order to ascertain whether perceived progress-toward-ideal explained variance in adjustment scores. See Figure 8 for SPERT items.

THE SLIDING PERSON TEST

1. Look at the line below. Think of person A as being yourself as you would like to be.

   Now put your pencil at ★ and move it along the line. Stop at the point which shows how close you are now to being person A. Mark that point with an X.

2. Think about the difference between yourself as you are now and yourself as you would like to be.

   Draw an X somewhere along the line to show how much that difference bothers you.

Not at all — Very much

3. Draw an X on the line to show how much progress you have made lately toward being more like you hope to be.

No progress — A lot of progress

Figure 8. Pencil-and-Paper Version of SPERT

Theoretical Framework and Hypotheses of the Study

Self-Ideal Self Discrepancy, Adjustment, and Social Desirability. Studies by Block and Thomas (1955) and Cole, Oetting and Hinkel (1967) have suggested that self-ideal self discrepancy is curvilinearly related to adjustment, where individuals with very large and very small discrepancies are the least well adjusted. While most of the research suggests an inverted U-shaped relationship between self-ideal self discrepancy and adjustment, Chordokoff (1954) found curvilinearity, but the "U" was not inverted.

In 1954, Carl Rogers observed that high self-report scores of the phenomenal field can have two interpretations--one, an "accurate" report of positive self-esteem or adjustment; the other, a "defensively" high positive report. Crowne and Marlowe (1967) suggest that a "high-social desirability--high self-esteem" relationship could be a defensive measure by which an individual attempts to protect and maintain a vulnerable self-image. Since all measures in this study were self-report measures, it was anticipated that those scoring high on the Crowne-Marlowe social desirability instrument would score high on the other instruments as well. The selection of a cut-off point for "scoring high" on social desirability was based on Goldfried's 1964 study in which college students were asked to respond to the Crowne-Marlowe scale under "need for strong social approval" instructions. The mean score was 19.7. The mean score for a comparable sample responding under standard instructions was 12.9. "High" social desirability subjects in the Karmos study were defined to be those scoring higher than 19 on the Crowne-Marlowe scale which, by coincidence, was the upper quartile on that test. Subjects scoring in the

upper quartile on social desirability were expected to score high on self-actualization, social adjustment, and emotional adjustment and low (small discrepancy) on SPERT.

For the remainder of the sample, there seemed to be some basis for hypothesizing an inverted-U relationship between "adjustment" and self-ideal self discrepancy, but the evidence was not overwhelming. The hypothesized relationship was based on available clues from the literature. The relationship for those below the 75th percentile on social desirability was expected to be an inverted-U shape, where those with high and low SPERT scores were expected to report low self-actualization and low social and emotional adjustment.

There was an intuitive expectation that there would be some not-high scoring social desirability individuals who would score low on adjustment and low (small discrepancy) on SPERT. The intuition was based on a conjecture that there would be some individuals who would rate themselves very low on items concerning norms of adjustment imposed by society, but when confronted with indicating how far they fell short of their <u>personal</u> ideals (SPERT), would react in an extremely defensive manner.

The expected scatter plot of the relationship between SPERT-discrepancy and adjustment scores is presented in Figure 9. Smaller numbers represent smaller discrepancy scores and poorer adjustment. The broken line indicates scores for subjects with very high social desirability and the solid line represents scores for the remainder of the sample.

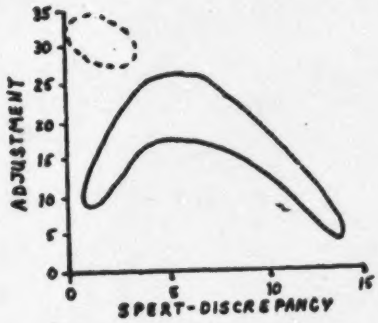

Figure 9. Expected scatter plot of the relationship between SPERT-discrepancy and each of three adjustment measures.

In order to reflect the expected scatter plots in a hypothesis, it was necessary to provide for both high and not-high social desirability subjects. High social desirability subjects were expected to have high adjustment scores and low discrepancy scores. For this group, it was sufficient to look at the correlations between social desirability and both adjustment and SPERT for the entire sample. A significant positive correlation on the former and a significant negative correlation on the latter would indicate that scatter plot points for high social desirability individuals would tend to fall above and to the left of points for the remainder of the sample.

Research Hypothesis 1. The correlations between social desirability and three adjustment measures are significantly greater than zero. The correlation between social desirability and SPERT-discrepancy is significantly less than zero. For those who are not high scorers on a measure of social desirability, there is a significant inverted-U relationship between SPERT-discrepancy and three measures of adjustment.

Differences Among Individuals With Large SPERT-Discrepancy Scores. A second hypothesis concerned differences among individuals who perceived large self-ideal self discrepancies. Combs and Soper (1957), Bruce (1958) and Wylie (1974) have suggested that there might not be a perfect correspondence between the magnitude of one's perceived self-ideal self discrepancy and one's self-regard or self-acceptance. To a highly self-accepting individual, a large discrepancy might be seen as a challenge, a positive indicator of mental health, whereas to an individual who is not highly self-accepting, a large discrepancy might be discouraging, an indicator of unreachable goals and a source of frustration. Individuals who scored ~~below~~ above the sample median of SPERT-discrepancy were considered to have large self-ideal self discrepancies. These people were then defined to be highly self-accepting if they were in the upper quartile on SPERT-acceptance and not highly self-accepting if they were below the 75th percentile. Comparisons were made of the mean scores of these groups on self-report measures of self-actualization, social adjustment, emotional adjustment, social desirability and anxiety.

Research Hypothesis 2. Those who score high on SPERT-discrepancy and low on SPERT-acceptance score significantly lower on measures of adjustment and social desirability and higher on a measure of anxiety than do those with high SPERT-discrepancy scores and high SPERT-acceptance scores.

Ten hypotheses concerning the validity of SPERT were tested in the study, but only two of these are reported in this paper.

Methods and Techniques

A quasi-multitrait-multimethod matrix was constructed to investigate minimal requirements for convergent and discriminant validity as described by Campbell and Fiske (1959). For this purpose, the Sherwood Self-Esteem Scale was included as a second method for measuring self-ideal self discrepancy. The three measures of "adjustment" were the Self-Actualization subscale of the Personality Orientation Inventory and the Social Adjustment and Emotional Adjustment subscales of the Bell Adjustment Inventory. The Crowne-Marlowe Social Desirability Scale, the Berger Self-Acceptance Scale, the IPAT Anxiety Scale and the Wonderlik Personnel Inventory, an IQ measure, were used for the discriminant validity comparisons and investigations of relationships among constructs.

Multiple linear regression analysis (Kelly, Beggs, McNeil, Eichelberger and Lyon, 1969) was used for tests of curvilinear relationships and tests of amount of variance accounted for in criterion variables. An alpha level of .05 was selected for all hypotheses.

Data Source

The sample consisted of 202 students enrolled in an educational psychology course at Southern Illinois University. Fifty-two were on-campus graduate students; 75 were on-campus undergraduates; 75 were military personnel enrolled in an SIU undergraduate degree program at Great Lakes Naval Base and Altus Air Force Base. About two-thirds of the sample was male. Ages ranged from 19 to 59, with an average age of 29. Subjects came from 39 states and 32 percent reported major fields in 48 different areas outside the College of Education. The sample was predominantly white (90%).

Results and Conclusions

Stability, Convergent Validity, Discriminant Validity. The stability (one-week test-retest) coefficient for SPERT-discrepancy was .82. The correlation between SPERT-discrepancy and SHERWOOD-discrepancy was .40, which satisfied the investigators' criterion for convergent validity of a new instrument. SPERT-discrepancy correlated more highly with SHERWOOD-discrepancy than with any other measure, so minimal evidence of discriminant validity was established (see Table 1, p. 26).

Self-Ideal Self Discrepancy, Adjustment, and Social Desirability. Research Hypothesis 1 was rejected. The expectations of the first two sentences were confirmed, but expected relationships for not-high social desirability subjects were not supported.

Individuals scoring high on social desirability did tend to report small SPERT-discrepancies and scored high on self-actualization and social and emotional adjustment measures as expected (see Table 2).

TABLE 2

CORRELATIONS BETWEEN SOCIAL DESIRABILITY AND MEASURES OF ADJUSTMENT AND SELF-IDEAL SELF DISCREPANCY

Variable	Correlation With Social Desirability
Self-Actualization	.14*
Social Adjustment	.29*
Emotional Adjustment	.40*
SPERT-discrepancy	-.29*

*An $|r| \geq .138$ is significantly different from zero at the .05 level, one-tailed test

TABLE 1

CORRELATIONS BETWEEN DISCREPANCY MEASURES AND MEASURES OF OTHER CONSTRUCTS

Discrepancy Correlations	r	p
Self-Ideal Self Discrepancy Measured By Two Methods		
SPERT-discrepancy vs. SHERWOOD-discrepancy	.40	.001
SPERT-discrepancy and Measures of Different Constructs by Different Methods		
SPERT-discrepancy vs. SPERT-acceptance	-.34	.001
SPERT-discrepancy vs. BERGER-acceptance	-.35	.001
SPERT-discrepancy vs. SPERT-progress	-.09	.099
SPERT-discrepancy vs. Anxiety	.33	.001
SPERT-discrepancy vs. Social Desirability	-.29	.001
SPERT-discrepancy vs. IQ	-.07	.172
SHERWOOD-discrepancy and Measures of Different Constructs by Different Methods		
SHERWOOD-discrepancy vs. SPERT-acceptance	-.32	.001
SHERWOOD-discrepancy vs. BERGER-acceptance	-.55	.001
SHERWOOD-discrepancy vs. SPERT-progress	-.01	.472
SHERWOOD-discrepancy vs. Anxiety	.60	.001
SHERWOOD-discrepancy vs. Social Desirability	-.41	.001
SHERWOOD-discrepancy vs. IQ	.02	.382

The correlation of -.29 between SPERT-discrepancy and social desirability confirmed the expectation that the scatter-plot points associated with high social desirability subjects would fall to the left of those for other subjects for the expected relationship between SPERT and the adjustment measures (see Figure 9, p. 22). Significant positive correlations between social desirability and self-actualization (.14), social adjustment (.29) and emotional adjustment (.40) placed the points for high social desirability subjects above the "adjustment points" for the remainder of the sample.

The inverted U-shaped relationship of Hypothesis 1 for not-high social desirability subjects was not substantiated for any of the three adjustment measures. Table 3 (see page 28) presents the results of the multiple-regression analysis. The regression weight for each vector in the full model is given. The weight for each constant term was obtained by adding the weight for the unit vector and the weight for the appropriate group membership vector.

The results of the regression analysis indicated that, for not-high social desirability subjects, the mean of the SPERT-discrepancy scores was the best predictor of self-actualization (see Figure 10, page 29).

A line with negative slope was found to predict social adjustment from SPERT-discrepancy scores for not-high social desirability subjects (see Figure 11, page 30).

In the equation predicting emotional adjustment, both the first-degree and second-degree SPERT-discrepancy terms were found to contribute to variance in emotional adjustment ($p < .05$), but

TABLE 3

F TESTS OF SIGNIFICANCE FOR TWO TERMS FOR HIGH SOCIAL DESIRABILITY SUBJECTS AND TWO TERMS FOR NOT-HIGH SOCIAL DESIRABILITY SUBJECTS USED IN REGRESSION EQUATION TO ACCOUNT FOR VARIANCE IN THREE MEASURES OF ADJUSTMENT

Social Desirability	Independent Variable	Regression Weight in Full Model	F	p[b]
Self-Actualization				
Not-high	constant term ($U+U_1$)	20.34		
	1st degree term (D_1)	-.14[a]	.547	n.s.[b]
	2nd degree term (D_2)	-.01	.198	.33[b]
High	constant term ($U+U_2$)	20.22		
	1st degree term (D_3)	.52	1.307	.13
	2nd degree term (D_4)	-.08	2.770	.049
Social Adjustment				
Not-high	constant term ($U+U_1$)	22.80		
	1st degree term (D_1)	-.68[a]	2.770	n.s.[b]
	2nd degree term (D_2)	.03[a]	.771	n.s.[b]
High	constant term ($U+U_2$)	25.37		
	1st degree term (D_3)	-1.38	3.87	.03
	2nd degree term (D_4)	.12	2.82	.047
Emotional Adjustment				
Not-high	constant term ($U+U_1$)	26.90		
	1st degree term (D_1)	-1.68[a]	9.39	n.s.[b]
	2nd degree term (D_2)	.11[a]	6.48	n.s.[b]
High	constant term ($U+U_2$)	29.70		
	1st degree term (D_3)	-.61	.602	.22
	2nd degree term (D_4)	.03	.244	.31

Note. The full model for testing the significant contribution of each term to variance in each of three adjustment measures was: $Y = a_oU + u_1U_1 + d_1D_1 + d_2D_2 + u_2U_2 + d_3D_3 + d_4D_4 + E_1$

See Table 4 for description of variables in full model. The restricted model for testing each term was the full model with that term eliminated. For example, the restricted model for the test of D_1 was: $Y = a_oU + u_1U_1 + d_2D_2 + u_2U_2 + d_3D_3 + d_4D_4 + E_2$

[a]Weight not in hypothesized direction

[b]Directional probability

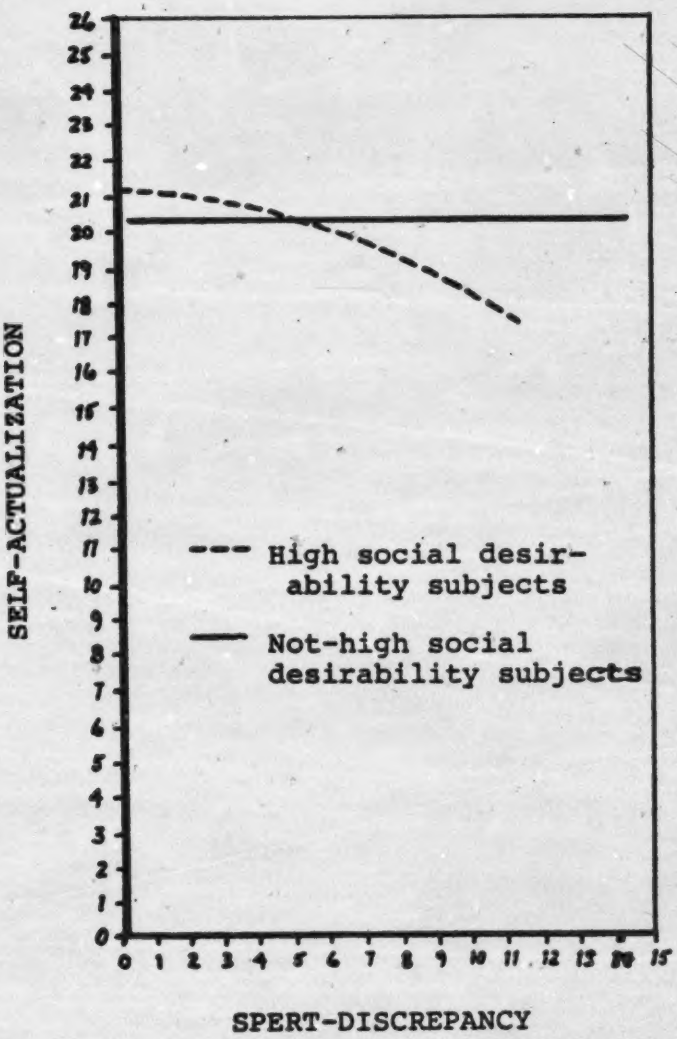

Figure 10. Graph of the relationship between SPERT-discrepancy and self-actualization for high and not-high social desirability subjects. (The graph was plotted from the most parsimonious model obtained. The equation for the "high" subjects is $y = 21.0 - .0278X^2$. The equation for the "not-high" subjects is $y = 20.3$.

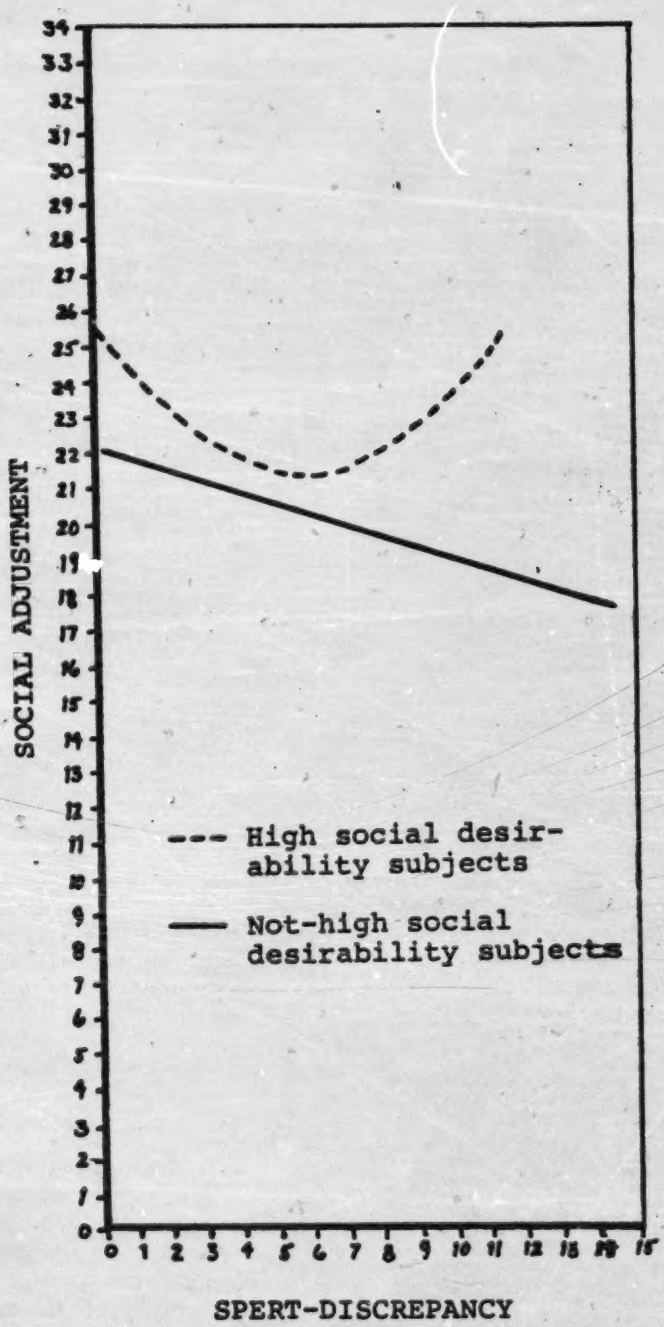

Figure 11. Graph of the relationship between SPERT-discrepancy and social adjustment for high and not-high social desirability subjects. (The graph was plotted from the most parsimonious model obtained. The equation for the "high" subjects is $y = 25.4-1.404X + .1221X^2$. The graph for the "not-high" subjects is $y = 22.0-.3171X$.)

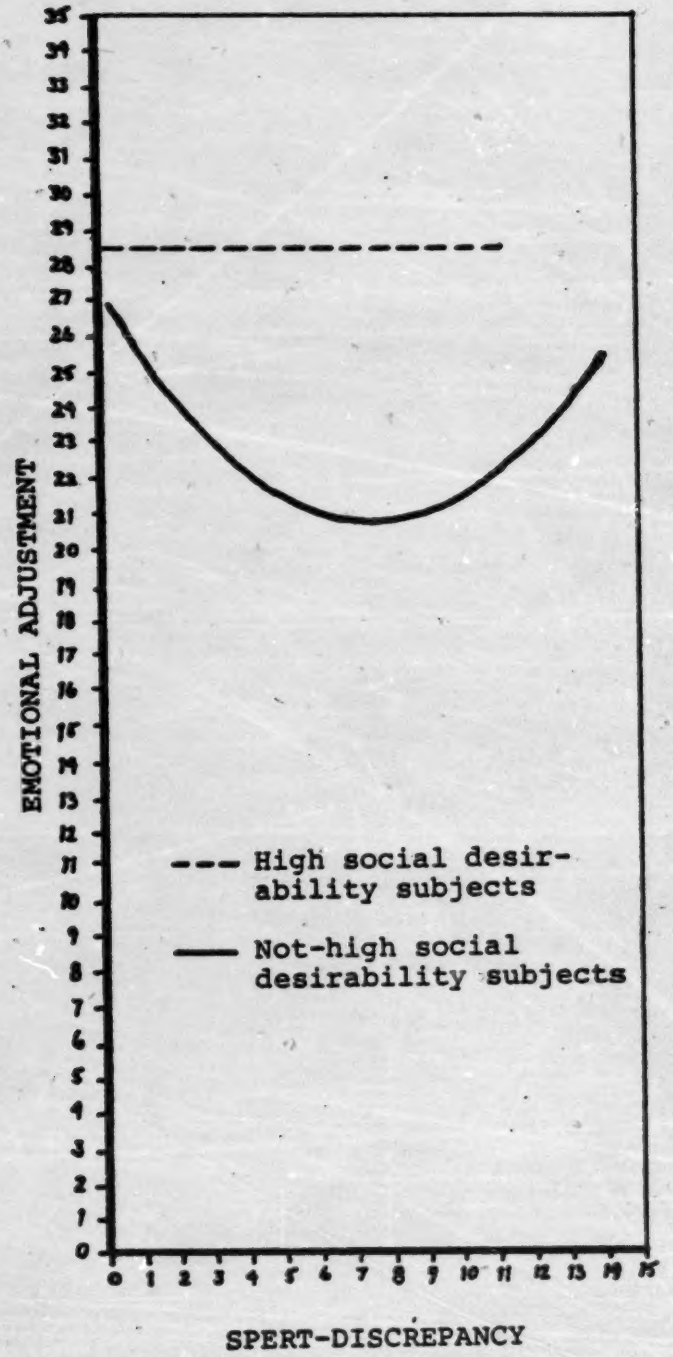

Figure 12. Graph of the relationship between SPERT-discrepancy and Emotional Adjustment for high and not-high social desirability subjects. (The graph was plotted from the most parsimonious model obtained. The equation for the "high" subjects is $y = 28.4$. The equation for the "not-high" subjects i $y = 26.9-1.655X + .1095X^2$.)

the coefficient of neither of the terms was in the hypothesized direction. Therefore, neither F was significant and Research Hypothesis 1 was soundly rejected for emotional adjustment. Nevertheless, this unexpected result is of particular interest. The curve of best fit is a U-shaped curve for not-high social desirability subjects (see Figure 12, page 31). Table 4 shows that the full model accounted for 13 percent more variance in emotional adjustment that did a model with only a linear component for SPERT-discrepancy (see page 33).

Differences Among Individuals With Large SPERT-Discrepancy Scores. It was hypothesized that there would be significant differences in mean scores between high-accepting and low-accepting individuals with large self-ideal self discrepancies on measures of adjustment, social desirability and anxiety. The only significant difference was on social desirability means.

The measure of self-acceptance which was used, SPERT-acceptance, was not found to be a reliable measure (one-week test-retest reliability was .53), nor to conform to any of the hypothesized expectations for its validity. Since Berger (1952) had found evidence for reliability and construct validity of his instrument, the authors decided to test a new hypothesis, using BERGER-acceptance scores to group low- and high-accepting individuals. Although the hypothesis was made before the data was examined, the results shown in Table 5 should be read with caution since the BERGER-acceptance-hypothesis was substituted ex post facto.

The findings in Table 5 were highly significant and lend support to Bruce's (1958) contention that an individual's feelings

TABLE 4

AMOUNT OF VARIANCE IN THREE MEASURES OF ADJUSTMENT ACCOUNTED FOR BY SPERT-DISCREPANCY (PEARSON r'S) AND MULTIPLE R'S OBTAINED USING SPERT-DISCREPANCY FIRST-DEGREE TERMS AND SPERT-DISCREPANCY SECOND-DEGREE TERMS FOR HIGH AND NOT-HIGH SOCIAL DESIRABILITY SUBJECTS

Dependent Variables	Pearson r	r^2	Multiple R[b]	R^2
Self-Actualization	-.28 (p=.001)[a]	.08	-.30 (p=.002)[a]	.09
Social Adjustment	-.26 (p=.001)[a]	.07	-.33 (p=.0002)[a]	.11
Emotional Adjustment	-.24 (p=.001)[a]	.06	-.44 (p<.0001)[a]	.19

[a]Non-directional probability

[b]Multiple R obtained by the following regression equation:

$$Y = a_o U + u_1 U_1 + d_1 D_1 + d_2 D_2 + u_2 U_2 + d_3 D_3 + d_4 D_4 + E_1$$

where:

Y = adjustment scores
U = unit vector
U_1 = 1 if not high on social desirability, 0 otherwise
D_1 = SPERT-discrepancy score if not high on social desirability, 0 otherwise
D_2 = (D_1) * (D_1)
U_2 = 1 if high on social desirability, 0 otherwise
D_3 = SPERT-discrepancy score if high on social desirability, 0 otherwise
D_4 = (D_3) * (D_3)
a_o to d_4 = partial regression weights calculated to minimize E_1
E_1 = error vector

about a large self-ideal self discrepancy are more important than the actual size of the discrepancy. Of particular interest is the large difference in anxiety means between the groups since Bruce found similar differences in anxiety with sixth-grade subjects.

TABLE 5

T TESTS FOR DIFFERENCES IN MEANS OF FIVE VARIABLES FOR HIGH SPERT-DISCREPANCY, HIGH BERGER-ACCEPTANCE SUBJECTS AND HIGH SPERT-DISCREPANCY, LOW BERGER-ACCEPTANCE SUBJECTS

Variable	High SPERT-Discrepancy: High BERGER-Acceptance $\bar{X}$ (n=11)	High SPERT-Discrepancy: Low BERGER-Acceptance $\bar{X}$ (n=90)	t value	p
Self-Actualization	21.8	19.7	-2.31	.01
Social Adjustment	25.1	19.3	-4.35	<.0001
Emotional Adjustment	27.6	21.0	-3.23	.001
Social Desirability	17.7	13.4	-2.55	.006
Anxiety	16.4	33.6	4.84	<.0001

[a]Directional probability

Educational Importance of the Study

The enhancement of an individual's feeling of worth is generally considered to be a primary affective educational objective, but recently, some psychologists have assumed that phenomenal variables also play a major role in academic achievement (Rogers, 1969; Brookover, 1959; Brookover and Erickson, 1969). A review of the literature (Karmos, 1975a) found considerable evidence to

support relationships between self-concept and achievement (R^2's ranged from .09 to .64).

Many researchers of self-concept and school achievement have urged that better self-concept instruments be developed for classroom use. This study established that SPERT, which is non-verbal and can be quickly administered to a group or to an individual, has promise as a valid measure of self-ideal self discrepancy.

The finding of a U-shaped curvilinear relationship between SPERT-discrepancy and emotional adjustment contributes to other research evidence of curvilinearity between personality variables. The differences between high- and low-accepting individuals with large discrepancies suggest that education for self-understanding and self-acceptance could be a useful technique for the enhancement of mental health.

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